MEMORANDUM FOR: A.I.S., Inc Northeast Fisheries Observer Program (NEFOP) Observers

FROM: Amy Van Atten
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SUBJECT: 2012 Northern Shrimp Fishery Information

The Northern Shrimp fishery is a quota based fishery that takes place in the winter months in the northern waters of the Gulf of Maine. Participating vessels generally utilize Bottom Otter Trawl gear and sail from ports in Maine, New Hampshire, and Massachusetts. The 2012 Northern Shrimp season starts January 2nd, and is expected to last roughly 6 weeks, depending on available landing days, until the quota is harvested. The purpose of this memo is to: Review shrimp trawl gear and how it should be properly recorded; provide clarification on some common confusion on identifying and documenting Northern Shrimp species; and to introduce and provide a new cheat-sheet for proper shrimp identification.

It has come to our attention that in the past, observers have misinterpreted species identification information located on page 15 of the NEFOP Biological Sampling Manual and have used it as their only source to identify shrimp. This has resulted in incorrect species identification on shrimp directed trips. The intent of page 15 is to serve as a supplement to the Peterson’s Atlantic Seashore guide. The 2 species of shrimp described in the Biological Sampling Manual, Royal Red and Scarlet may occasionally be seen and have been targeted further south (CT). The shrimp species that is targeted in the Gulf of Maine Northern Shrimp fishery is Pandalus borealis. Other Pandalid species may be occurring less frequently in the catch. Be aware that captains may not be familiar with the different species and therefore indicate they are targeting Maine shrimp, pink shrimp, or simply shrimp. In the future, the Biological Sampling Manual will be improved in this area and shrimp will be added to the fish identification session in observer trainings. Enclosed with this memo is a cheat-sheet that better illustrates the various shrimp species, please include this as part of your cheat sheet package. Although there is not a species verification requirement, observers should send in whole samples or pictures for verification if unsure of species ID.

Fishing vessels participating in the Northern Shrimp fishery have specific gear modification requirements they have to adhere to in order to harvest and land shrimp. Observers deployed on tasked shrimp trips should be familiar with the gear modifications and how to properly document them in the NEFOP T.

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Gear Characteristics Log. Shrimp trawls should be equipped with a Nordmore Grate (Fig 1) located in the extension of the trawl and forward of the codend. The grate will be orientated at a 45 degree angle with a triangular escape outlet located at the apex of the grate to facilitate the exclusion of finfish and other large non-targeted species (refer to Fig 2 on how to record escape outlet dimensions). The grate and escape outlet can be orientated towards, and located at either the top, or bottom of the net. Often a mesh accelerator funnel (Fig. 1) will be used with the Nordmore grate to concentrate the catch at the base of the grate to maximize shrimp retention; it is important to note that an accelerator funnel is considered a “guiding device” and has a separate excluder/separater device code. When an accelerator funnel is used in conjunction with a Normore grate, the Excluder/Separator Device Type code should be marked 98 (combination), with a comment made indicating that the device is a “Nordmore grate with accelerator funnel.” Some Shrimp Trawls may be equipped with a double Nordmore grate system (Fig. 3): The second grate will be located between 6 and 10 feet behind the Nordmore grate toward the codend and acts as a grading device to allow small, non-marketable shrimp to escape before entering the codend. It is important to note that escape outlet and excluder information fields on the Trawl Gear Characteristics Log should be filled in with the dimensions of the first grate and escape outlet system. A comment should be made indicating that the trawl is equipped with a “Double Nordmore grate system”. We strongly encourage observers to photograph or sketch any gear configurations they are not familiar with to upload with trips. Please refer to this memo, the accompanying example gear log for shrimp trawl, and shrimp ID cheat-sheet when deploying on Northern Shrimp targeted trips. Please contact Tad Beagley with any questions at (508)-495-2383 or 774-392-2735.

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**Fig. 1: Nordmore grate and accelerator funnel**

Source: 2010 NEFOP Program Manual

**Fig. 2: Triangular escape outlet**

Source: http://www.seagrant.unh.edu/necrnordmore.html

**Fig. 3: Example of Double Nordmore Grate**

Source: http://www.crimond.com/twintrawlreport.htm

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SHRIMP, PANDALID, NK (NORTHERN SHRIMPS)

Defining Characteristics:
- Second tail segment overlaps both 1st and 3rd segments
- Long rostrum (at least as long as carapace)
- Claws very small
- Usually pink or reddish in color
- Only species targeted in Gulf of Maine is *Pandalus borealis*

modified from Pohle 1988

*Pandalus borealis* (Northern Shrimp)
**PENAEIODS**

**Defining Characteristics:**
- NOT targeted by Gulf of Maine vessels
- DEEP water continental shelf species
- Second tail segment does not overlap forward
- First 3 pairs of legs have claws
- Can reach large sizes

*Note: Other penaeid species may also be encountered.*

See other resources for more complete species listings.

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**Royal Red Shrimp**

*(Pleoticus robustus)*

- Rostrum shorter than in pandalids, slightly arched
- Spines on side of carapace
- First 3 legs have claws
- Body covered with short hairs
- Deep red color

**Range:** Grand Banks, Newfoundland to Caribbean Sea; 140-730 m

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**Scarlet Shrimp**

*(Aristaeopsis edwardsiana, also known as Plesiopenaeus edwardsianus)*

- Three well-spaces spines along upper edge of rostrum
- No spines near tip of rostrum
- Crimson red

**Range:** Labrador to Caribbean Sea; 274-1,850 m

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*modified from Squires 1990*

*modified from Pohle 1988*